

REMARKS

The specification has been amended in various places to correct typographical errors.

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 8 has been made an independent claim and includes the limitations of original claim 1. In addition, claim 3 has been cancelled, while claim 1 has been amended to include the limitations of claim 3, and claim 11 has been cancelled, while claim 9 has been amended to include the limitations of cancelled claim 11. Further, the claims have been amended for clarity.

Applicants believe that the above changes answer the Examiner's objection to the specification, and respectfully request withdrawal thereof.

The Examiner has rejected claims 1-5, 7, 9-13 and 15 under 35 U.S.C. 102(b) as being anticipated by International Patent Application No. WO 99/49504 to Fukami et al. The Examiner has further rejected claims 1, 2, 7, 9, 10 and 15 under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Reference No. 6-124873 to Takahashi. In addition, the Examiner has rejected claims 1, 5, 7, 9, 13 and 15 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0020821 to Saten et al. Moreover, the Examiner has rejected claims 1-7 and 9-15 under 35 U.S.C. 102(b) as being anticipated by German Patent Reference DD221563 to Pfort et al. Applicants acknowledge that the Examiner has found claim 8 allowable over the prior art of record.

In view of the above changes, Applicants believe that claim 8 should now be allowed.

The Fukami et al. patent discloses a projection method and system, in which a wafer of a photosensitive substrate coated with a resist is exposed to radiation beam while the wafer is being moved in relation to the radiation beam. A liquid at a predetermined temperature is directed to the wafer via a supply pipe and discharge nozzle 21a so as to fill the space between a lens 4 of the projection optical system generating the radiation beam and the wafer. The liquid is recovered from the wafer via a recovery pipe 23 and inflow nozzles 23a and 23b.

As noted in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has indicated that with regard to Fukami et al., "Figures 1 and 2 further disclose maintaining the interspace between optical element 4 and the wafer W with a liquid 7. The liquid 7 is supplied by a conduit 21. The space between optical element 4 and W is considered to be a recess."

Applicants submit that in Fukami et al., while the space between the optical element 4 and the wafer W may be considered "a recess", this is not the recess as claimed in claims 1 and 9. In particular, claim 1 includes the limitation "a portion of said interspace is bounded by a recess which is filled by at least a portion of said liquid, said radiation passing through said liquid in said recess when irradiating said spot, wherein said recess is bounded by a passage in a wall between said layer and a surface of said at least one optical element nearest to said layer and by said at least one optical element nearest to said layer". It should be clear that there is no recess in Fukami et al. which meets the claim limitation, e.g., there is no disclosure or suggestion of a wall having a passage, and that the wall is located between the surface of the lens and the layer on the wafer.

Since independent claims 1 and 9 include the limitations of claims 3 and 11, respectively, Applicants believe that the Examiner's rejection thereof with respect to Takahashi et al. and Saten et al. are rendered moot.

The Pfort et al. reference discloses an immersion objective for stepwise projection image-forming of mask structure, in which a radiation beam is directed by a optical lens system to the surface of a substrate, and a fluid system is used between the optical lens system and the substrate.

The Examiner has indicated that in Pfort et al., "The interspace between optical element 2 and the layer 26 on substrate

25 is filled with a liquid. The recess could be the portion within auxiliary device 7 as seen in figure 3."

Applicants believe that the Examiner is mistaken. In particular, claim 1 includes the limitation "maintaining said interspace through which said radiation irradiates said spot on said layer filled with a liquid, the liquid being supplied via a supply conduit". While the Fig. 3 embodiment of Pfort et al. shows 2 chambers filled with fluid between the surface of the lens and the surface of the substrate, it should be noted that "the tapered opening is medium-tightly enclosed by a light-transmittable disk 3 and by means of a frame 3.1" (page 13, lines 7-9). As such, the interspace between the lens and the substrate is not maintained to be filled with the liquid but also includes the disk 3. Further, claim 1 includes the limitation "said recess is bounded by a passage in a wall between said layer and a surface of said at least one optical element nearest to said layer and by said at least one optical element nearest to said layer, said radiation beam passing through said passage". If one were to only consider only the chamber 7, then the "maintaining" limitation would not be met. Further, as claimed in claim 4, a liquid outflow is maintained through that passage, through which the radiation beam passes. This feature is neither disclosed nor suggested by Pfort et al.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1, 2, 4-10 and 12-15, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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